KP192596 L. aemiliae PNW06 (blackening Bellinger clade Va-9) EU (alleles)
Lyophyllum aemiliae (semitale UNITE EU 2) UDB037297
Lyophyllum aemiliae (semitale UNITE EU 4) KP192562
KP192597.1 Lyophyllum sp. (blackening Bellinger clade Va-13) EU
Lyophyllum semitale PNW04 OR iNat146145668
Lyophyllum (big cluster) semitale PNW04 WA iNat34607503
Lyophyllum (big cluster) semitale PNW04 CA DQ273423
KP192591.1 Lyophyllum sp. aemiliae f (blackening Bellinger clade Va-12) EU
Lyophyllum semitale UNITE EU 5/maleolens UDB037602 (aff 11)
KP192582.1 Lyophyllum sp. aemiliae f (blackening Bellinger clade Va-12) EU
KP192617 Lyophyllum pseudosinuatum (blackening Bellinger clade Va-1) EU
AF357050.2 Lyophyllum sykosporum (blackening Bellinger clade Va-5) EU
Lyophyllum rhombisporum PNW05 OR iNat101040451
JX966307.1 Lyophyllum sp. (blackening Bellinger clade Va-4) EU
JX966307 Lyophyllum rhombisporum TYPE China
Lyophyllum semitale PNW07 spring WA iNat118474852 9.3x5.5u
Lyophyllum semitale PNW01 WA spring MO238824 9x5.4u
Lyophyllum semitale PNW01 spring WA iNat119114574
Lyophyllum semitale PNW01 OR spring iNat24964932
PSMS335 Lyophyllum semitale PNW01 WA spring 119615430 8.3x5.4u
JF908331.1 Lyophyllum caerulescens (blackening Bellinger clade Va-2) EU
KP192653.1 Lyophyllum transforme (blackening Bellinger clade Va-14) EU
KP192614.1 Lyophyllum rhopalopodium (blackening Bellinger clade Va-15) EU
KP192568.1 Lyophyllum sp. (blackening Bellinger clade Va-3) EU
Lyophyllum semitale PNW01 Buck 928 Fall
KU574741 Lyophyllum cf canescentipes 4428 (semitale 3) OR
AF357048.2 Lyophyllum sp. (blackening Bellinger clade Va-11) EU
AF357049.2 Lyophyllum aemiliae EU
Lyophyllum aemiliae PNW06 2/1/6 WA iNat112443890
KP192665.1 Lyophyllum pulvus-horrei (blackening Bellinger clade Va-10) EU
JF908338.1 Lyophyllum sp. (blackening Bellinger clade Va-8) EU
Lyophyllum semitale PNW04 NS4573 WA Soda Springs
KU574739.1 Lyophyllum semitale PNW04 cf. pallidum 4496 (big cluster) OR
KU574739.1 Lyophyllum (big cluster) semitale PNW04 cf. pallidum OR
Lyophyllum (big cluster) semitale PNW04 WA iNat 34666034
Lyophyllum (big cluster) semitale PNW04 Victoria BC UDB0778250
KP192662.1 Lyophyllum sp. (blackening Bellinger clade Va-6) EU
KP192554.1 Lyophyllum amariusculum (blackening Bellinger clade Va-7) EU
KP192571.1 Lyophyllum cf semitale var. intermedium FR (aff 11)
MP3955675 Lyophyllum semitale PNW04 (big cluster) WA
MK280714.1 Lyophyllum semitale PNW02 JLF5884 (3/0/1 8322) iNat66019348 fall
Lyophyllum semitale PNW02 JLF8322 OR iNat35170067 fall
KU574740 Lyophyllum semitale PNW02 1239 OR
PSMS420 Lyophyllum semitale PNW02 OR iNat98675815
PSMS1428 Lyophyllum PNW10 WA iNat188938219
Lyophyllum PNW10 Buck 436 (novel section)
Lyophyllum PNW10 CA iNat150376457 (blackening)
Lyophyllum PNW10 LA CA iNat146492206 (different look)
AF357055.2 Lyophyllum anthracophilum EU Bellinger Vb-3 (non-blackening)
PSMS282 Lyophyllum anthracophilum WA iNat119020691
Lyophyllum anthracophilum OR iNat100734046 1/1/2n (Vb-3 non-blackening)
PSMS1437 Lyophyllum anthracophilum PNW09 WA iNat188948264
Lyophyllum anthracophilum CA iNat152912861
Lyophyllum anthracophilum PNW09 5/2 WA iNat112449895 (no burn)
Lyophyllum anthracophilum PNW09 WA iNat112449414 (no burn)
Lyophyllum anthracophilum PNW09 WA iNat112445471 (no burn)
AF357053.2 Lyophyllum Bellinger clade Vb-2 (Tephrocybe atrata) EU
KP192644.1 Lyophyllum Bellinger clade Vb-1 (cf Tephrocybe striaepilea) EU
Lyophyllum PNW11 IDx2 +CAx2 iNat162973398
Lyophyllum PNW12 WA iNat190972868
AF357057 Lyophyllum Bellinger clade Vb-4 (cf Tephrocybe ambusta/carbonaria 1) EU
KP192545.1 L. Bellinger clade Vb-5 (cf Tephrocybe ambusta/carbonaria 2) EU
MF955186.1 Lyophyllum decastes Manning Park BC +EUx1
iNat17784220 Lyophyllum decastes WA
Lyophyllum decastes OR iNat147508588
MW555172 Lyophyllum decastes (1 EU but EU varies by 1) OR JLF9213 iNat68937981
MW621166.1 Lyophyllum decastes OR JLF3182
MW621868.1 Lyophyllum decastes OR JLF2935
Lyophyllum cf decastes Bellinger clade Vb-9 UNITE EU 3 HM572547
Lyophyllum decastes Bellinger clade Vb-9 (UNITE EUx2) AF357059
Lyophullum decastes Bellinger clade Vb-9 (UNITE EUx1) HM572548
AB285103.1 Lyophyllum decastes JP conifer
Lyophyllum cf loricatum Bellinger clade Vb-10 (UNITE decastes EU 2x19) JF908336
JX280407.1 Lyophyllum clade Vb-10 cf loricatum f. subxanthum TYPE IT
Lyophyllum fumosum Bellinger clade Vb-7 (UNITE IF =decastes) EU 1x23) JF908340
Lyophyullum shimeji Bellinger clade Vb-6 UNITE Japan+worldwide EU222980
Lyophyllum shimeji (1/0 official Clade Vb-6) iNat56388028 WA
MT378289.1 Lyophyllum shimeji (2/0-1/1) JLF8444 OR iNat 43504800
MK280715.1 Lyophyllum shimeji JLF5957 OR iNat79818580
AB301604.1 Lyophyllum shimeji Bellinger clade Vb-6 EU
HM572529.1 Lyophyllum shimeji Bellinger clade Vb-6 EU
Lyophyllum aff. shimeji ID iNat108615780
KP192663.1 Lyophyllum cf. decastes/conglobatum (Bellinger clade Vb-8) FR
AF357060.2 Lyophyllum fumosum Vb-7
HM572537.1 Lyophyllum fumosum Vb-7
Lyophyllum cf fumosum UNITE EU 2 (not in Bellinger) HM572539
PSMS1381 Lyophyllum fumosum WA iNat184133604 (1 species) (fibrous cap mealy odor)
HM572540.1 Lyophyllum fumosum Vb-7
KP192600.1 Lyophyllum fumosum Vb-7
Lyophyllum decastes PNW08 OR spring MO204772
Lyophyllum decastes PNW08 ID iNat166629614
Lyophyllum decastes PNW08 WA spring iNat120541829
MK280713 Lyophyllum decastes PNW08 JLF3306 CA iNat65374882 spring
Lyophyllum decastes PNW08 OR spring iNat24962715
MW015746.1 Lyophyllum decastes PNW08 (pale spring) JLF8646 CA iNat59938487
Lyophyllum decastes PNW08 WA/ID iNat 43027918 spring
EU669250.1 Tephrocybe rancida OR (3-4/0)
EU669248.1 Tephrocybe rancida OR (3-4/0)
EU669249.1 Tephrocybe rancida OR (3-4/0)
EU697259.1 Tephrocybe rancida OR (3-4/0)
Tephrocybe rancida UNITE EUx46 JF519599 (Clade VII-2)
EU697260.1 Tephrocybe rancida OR (3-4/0)
AF357023.2 Lyophyllaceae Clade VII-6 (as Termitomyces microcarpus)
AF357022.2 Lyophyllaceae Clade VII-8 (Termitomyces cf heimii)
AB051882.1 Lyophyllaceae Clade VII-7 Termitomyces sp.
Ossicaulis lignatilis UNITE EUx9 HE649949 (Clade IV-3)
Ossicaulis lignatilis PNW01 WA iNat142120265
DQ917653.1 Ossicaulis lignatilis PNW01 4 ID
MW391255.1 Ossicaulis lignatilis PNW01 iNat65459899 OR
Myochromella PNW02 OR iNat66596645
AF357046.2 Lyophyllaceae Clade VI-5 (as Tephrocybe boudieri)
Myochromella sp. uncultured UNITE EUx31 UDB0528703
Myochromella inolens UNITE EUx2 KP192630
Myochromella PNW01 WA iNat112452216
Myochromella CA01 CA iNat69483481
Myochromella PNW03 WA iNat147583996
MG890331.1 Myochromella PNW03 CA MO307728
OM867845.1 Myochromella cf boudieri EU (type EU)
KP192629 Myochromella cf boudieri EU (type EU)
KP192580.1 Myochromella ozes (as Tephrocybe) EUx5 (type EU)
Mycochromella ozes (Tephrocybe) NS4585 WA Dalles
ON478226.1 Myochromella PNW01 WA
ON478198.1 Myochromella PNW01 WA
Myochromella PNW01 WA iNat112445571
Myochromella PNW01 WA iNat112415235
PSMS1445 Myochromella PNW01 WA iNat188953322 (no alleles Sanger)
MN992317 Lyophyllaceae1 sp.1 PQ
SVMFA082 Lyophyllaceae1 sp.2 N.AB
MH930352 Lyophyllaceae2 sp. Chile
Hypsizygus ulmarius UNITE EU 1 UDB019612 (no dots elm only)
Hypsizygus marmoreus UNITE worldwidex107 (type NY) FJ609279 (1872 cultivated name)
KP192623 Hypsizygus tessulatus EUx1 1791 (4/0/1 PNW 4/1 marmoreus) (inside UNITE marmoreus 0.5)
MT955135.1 Hypsizygus tessulatus (as marmoreus) AK SAT-12-248-04
MF955173.1 Hypsizygus tessulatus (as marmoreus) UBC F-31125
MF955193.1 Hypsizygus tessulatus UBC F-32233
iNat17296519 Hypsizygus tessulatus OR (0/0/2 BC) (Clade I-5)
Hypsizygus tessulatus iNat 35077147 Vanc BC (6/0/1 marmoreus)
KP192569.1 Clade XI-4 Lyophyllum konradianum (Tricholyophyllum)
Tricholyophyllum PNW03 (Clade XI) WA iNat101155508 (LSU available)
KP192560 Tricholyophyllum Clade XI sp. (as Tephrocybe)
Tricholyophyllum PNW04 OR iNat100547391
Tricholyophyllum PNW02 Buck 741 WA iNat106560129
KP192556 Tricholyophyllum Clade XI sp. (as Lyophyllum)
Tricholyophyllum PNW01 WA iNat99656740 (LSU available)
KP192551 Tricholyophyllum Clade XI sp. (as Tephrocybe)
MK400238 Clitocybe thujana TYPE WA (Paralyophyllum)
Clitocybe thujana (Paralyophyllum) WA iNat100154665 (LSU available)
KP192633.1 cf Tephrocybe confusa Clade I-10
Lyophllaceae PNW03 (clade I-10) WA iNat188103396
KP192611.1 cf Tephrocybe confusa Clade I-11
Lyophyllaceae (Clitocybe IN11 cf inflatipes) as Lactarius deliciosus OR (MP 6598678)
Paralyophyllum PNW02 Jacob WA iNat112449743
KJ158159 Paralyophyllum turcicum TYPE Turkey
Paralyophyllum turcicum PNW01 8/3 WA iNat98432701
Paralyophyllum turcicum PNW01 WA Buck iNat126302095
KT934393 Clitolyophyllum TYPE Turkey akcaabatense TYPE Turkey
MT705717 Tricholyophyllum brunneum TYPE China (Clade XI)
Metalyophyllum PNW01 MO361959 WA
Metalyophyllum PNW01 MO361959 WA iNat39658701 (LSU available)
Sphagnurus paluster PQ (type NY) +UNITE EUx9 (Clade IV-1)
Sphagnurus paluster WA iNat85023222
AF357043 Sphagnurus paluster Bellinger EU (0/2 one chunk of 12)
Asterophora lycoperdoides iNat 30765687 WA
Asterophora lycoperdoides UNITE EU+global UDB015170 (Clade III-2)
Asterophora cf lycoperdoides iNat 30974269 WA
Asterophora parasitica UNITE EUx7 (+MX) UDB018796 (Clade III-1)
MP3956605 WA Sagaranella tylicolor
KP192538.1 Sagaranella tylicolor Bellinger EU (Clade II-2)
NA88 Sagaranella tylicolor/tesquorum (same ITS)
PSMS842 Leucocybe salmonilamella WA iNat143152518
Leucocybe salmonilamella WA iNat182407587
Leucocybe salmonilamella BTSP WA (mixup no match)
NR 158299.1 Leucocybe (Clitocybe) salmonilamella TYPE CA
iNat17471967 Leucocybe (Clitocybe) salmonilamella OR 0/0
Leucocybe salmonilamella WA (as deceptiva BTSP 18) 0/0
PSMS748 Leucocybe salmonilamella WA iNat141509921
Leucocybe (Clitocybe) salmonilamella 3/1 OR iNat66349328
Leucocybe salmonilamella BC iNat146854098
iNat34054644 BTSP Clitocybe salmonilamella (3/2+dirty)
Leucocybe candicans WA iNat112445317 0/1/3
DQ202268 Leucocybe candicans official Alvarado EU+ENA (+CO Buck1005 100)
Leucocybe candicans WA iNat112414999 0/2
Leucocybe connata WA iNat98397210 (as Clitocybe dilatata) (+MP3954396 dirty)
Leucocybe connata WA iNat98543888 (as Clitocybe dilatata)
MG953997 Leucocybe connata Mary UBCx4 (all w/photos)
MP 3954394 Leucocybe connata (dirty alleles)
MH090923.1 Leucocybe (Clade I-1) connata OR JLF5911
KJ681025 Leucocybe connata official Alvarado EU
KP192561.1 Lyophyllaceae Clade I-3 (probably Clitocybaceae Bellanger/Alvarado)
Clitocybaceae gen nov PNW02 (Lyo clade I-3) (LSU avail) WA iNat188947213
Tephroderma PNW01 WA iNat112453011
Tephroderma PNW01 WA Beug 128672228
Tephroderma PNW01 WA iNat98838317 Beug
Tephroderma PNW01 WA MP3955672
NR 154493.1 Tephroderma fuscopallens TYPE France
Atractosporocybe sclerotoidea BTSP iNat18661705
Atractosporocybe sclerotoidea WA iNat112444413
Atractosporocybe sclerotoidea WA iNat106124888
MT378388.1 Atractosporocybe inornata (type variety) OR JLF8485 iNat36890476
KJ680995 Atractosporocybe inornata official Alvarado EU (Clade I-2)
Lyophyllaceae PNW01 gen nov OR iNat17477903 (=Pablo s Clitocybe vibecina)
Lyophyllaceae PNW01 gen nov WA iNat119320296
MH856795 Lyophyllaceae PNW01 (as Clitocybe ditopa) EU
DQ202269 Lyophyllaceae PNW01 gen nov (as Clitocybe subditopoda)
EU852800 Lyophyllaceae PNW01 gen nov. (as Clitocybe subditopoda) OSC
Lyophyllaceae PNW01 WA iNat121746321
MZ314995 Lyophyllaceae PNW01 PA (as Clitocybe subditopoda)
Lyophyllaceae PNW01 WA Buck 1029 (Pablo s Clitocybe vibecina)
PSMS337 Gerhardtia foliicola WA iNat121128335 (+very short iNat31163284)
PSMS408 Gerhardtia foliicola WA iNat125130202
Gerhardtia foliicola WA iNat92151040 (= unseq iNat30292326)
MT476982 Gerhardtia foliicola Japan+China+Pakistan x12 (type Japan)
Gerhardtia foliicola Mary BC AF
KP192534.1 Gerhardtia borealis Bellanger EU (type EU)
EF421103.1 Lyophyllaceae Clade VIII-3 Gerhardtia sp.
EF421103.1 Gerhardtia borealis Bellanger ENA
KU563151.1 Gerhardtia sinensis TYPE China (Clade VIII-2-3)
GU734744.1 Lyophyllaceae Clade VIII-2 (as Gerhardtia highlandensis)
GU734744.1 Gerhardtia highlandensis Bellanger MA (type NC)
KY363576.1 Gerhardtia citrinolobata TYPE Dom Rep
Calocybe carnea 1/2-3/4 EU (as collybia eatonae JWL1687B)
KP192592.1 Calocybe carneus EU
AF357028.2 Calocybe persicolor Bellinger (prob = older C. carnea) EU
Calocybe persicolor UNITE EU JF907773
JF907773.1 Calocybe carneus EU
KP192572.1 Calocybe carneus EU
Calocybe gambosa UNITE EUx32 UDB000593
AF357027.2 Calocybe gambosa UNITE EU (inside SH)
KP192622.1 Calocybe cf onychina EU
KP192651.1 Calocybe cf onychina EU
KP192622.1 Calocybe onychina Bellinger EU
MW084664.1 Calocybe aff onychina OR (4/3 EU) (Clade IX)
KP192543 Calocybe naucoria Bellinger (=fallax nom inv) EU
AF357030 Calocybe naucoria EU (1.5 + 1 at beg)
MW084663 Calocybe naucoria OR
Calocybe cf fallax EU KP885643
Calocybe cf fallax EU KP885642 (aff PNW01)
Calocybe cf fallax EU KP885641 (aff PNW01)
PSMS1429 Calocybe naucoria PNW01 (3/0) WA iNat188936948
Calocybe naucoria PNW01 NY iNat129336138
Calocybe naucoria PNW01 4 OR iNat36786669
MT712777 Calocybe naucoria PNW01 AZx2 MO377585
Rhizocybe rhizoides KC1702 (MO 278655) (0/1 type +Ns)
Rhizocybe rhizoides WA iNat128522606
HQ179665 Rhizocybe rhizoides TYPE TN
Rhizocybe rhizoides WA iNat115294040
Rhizocybe pruinosa Buck 261 Camano WA (0/1/10)
KJ681028.1 Rhizocybe pruinosa EU official Alvarado
KJ681029.1 Rhizocybe pruinosa EU official Alvarado subalpine
KJ681034 Rhizocybe vermicularis official Alvarado EU
KJ681033.1 Rhizocybe cf vermicularis EU
Rhizocybe cf vermicularis EU UDB0686854
Rhizocybe (Clitocybe) albirhiza OR spring iNat24964312 (type ID)
Rhizocybe albirhiza WA iNat84339641
KY030726 Rhizocybe alba China (TYPE China)
MZ675560.1 Rhizocybe alba China (type China)
Rhizocybe vermicularis subsp americana OR MW415021 iNat66558548
Rhizocybe sp. (vermicularis subsp. americanus) WA iNat38233151
R. cf vermicularis subsp americana WA (type WA) iNat 42960264 (2 alba)
Rhizocybe sp. (vermicularis subsp. americanus) WA iNat128523355
Hertzogia martiorum
AY313279.1 Omphalotus olivascens CA (OUTGROUP)
0.050